

B R E V I O R A

Museum of Comparative Zoology

CAMBRIDGE, MASS.

MAY 28, 1965

NUMBER 223

A NEW SUBSPECIES OF *CLELIA CLELIA* (SERPENTES: COLUBRIDAE) FROM THE ISLAND OF GRENADA

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The recent acquisition of two specimens of *Clelia clelia* from the island of Grenada, Lesser Antilles, draws attention to significant morphological and behavioral differences between the island and mainland populations of this species. The population of *Clelia clelia* from Grenada warrants taxonomic recognition and may be known as:

*CLELIA CLELIA GROOMEI*¹ new subspecies

Fig. 1

Holotype. MCZ 79767, adult male, Beausejour, Grenada. Coll. James D. Lazell, Jr., 1 July, 1964.

Paratypes. MCZ 79766, Du Quesne, Du Quesne River Valley, St. Marks, Grenada. Coll. James D. Lazell, Jr., 26 June, 1964. MCZ 4507, Grenada. Coll. Peter Gillinam. Received by the Museum, August, 1880.

Diagnosis. *Clelia clelia groomei* is similar to the mainland populations of *C. clelia* except for the preocular which is either very much reduced in size or united with the supraocular. When present, the preocular does not reach dorsally to the level of the upper edge of the loreal. When the preocular is lacking, the supraocular extends ventrally in front of the eye to touch the third supralabial.

Comments. In all three specimens the reduced preocular is present on the left side of the head and absent on the right.

As only three specimens of *Clelia* are known from Grenada,

¹ Grenada is one of the few places in the world where snakes are protected by law. Dr. John R. Groome of Point Salines, Grenada, one of the few zoologists in the Lesser Antilles, has been the primary instigator of this reform. For this, and for his hospitality to Mr. Lazell during his stay on Grenada, the new subspecies is named in Dr. Groome's honor.

it may be objected that the diagnostic head scale characters are nothing more than asymmetrical anomalies. Obviously, only an examination of a larger sample would test this objection satisfactorily. For the present, however, it seems significant to me that the diagnostic characters are found not only in two specimens (MCZ 79766-79767) recently collected in different areas of Grenada (Fig. 2) but also in a third specimen (MCZ 4507)

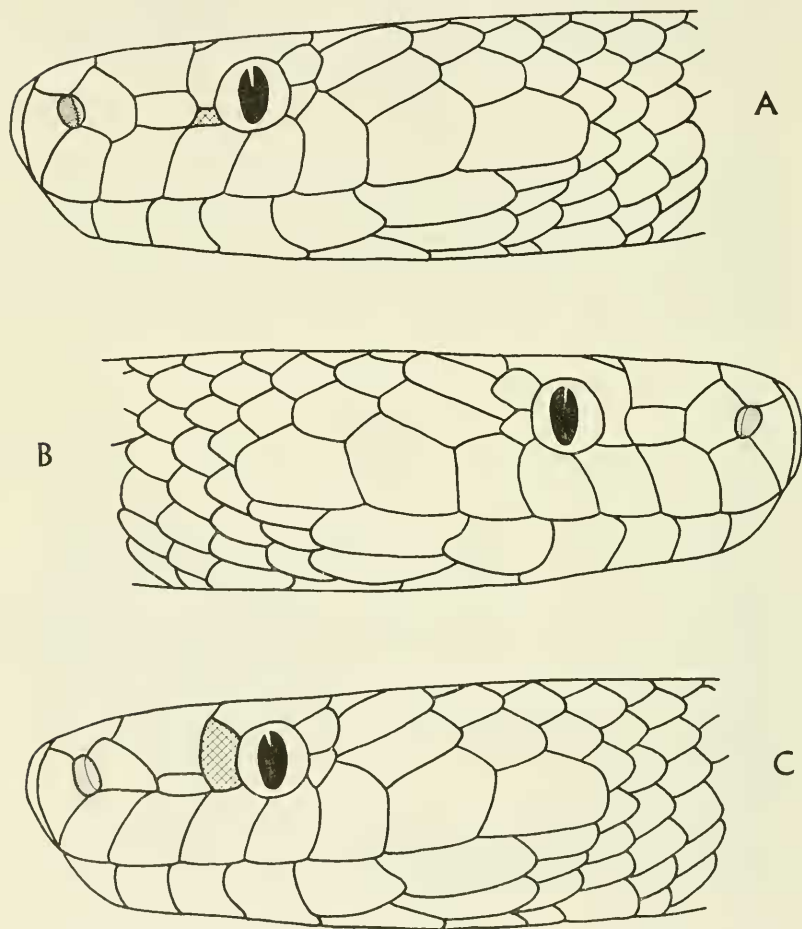


Fig. 1. Side of the head of *Clelia clelia*. A and B, *C.c. groomei* new subspecies, paratype, MCZ 79766, Du Quesne, Grenada; C, *C. clelia* (Daudin), MCZ 19933, Ulna River, Tela, Honduras. Preocular scale is cross-hatched.

collected at probably yet a third locality 83 years previously. These admittedly slight, but constant, morphological differences, together with the behavioral differences alluded to below, indicate that the Grenada population of *Clelia* should be given at least subspecific status.

The holotype (MCZ 79767), a male, has 216 ventral scales, 72 + subcaudal scales, and 19-19-19 longitudinal scale rows. The uniform slate grey color of the dorsum extends ventrally to the lateral quarter of the ventral scales. The chin, throat and entire midventer are white.

MCZ 79766 is a female with 231 ventrals, 81 subcaudals and 19-19-17 longitudinal scale rows. The color is essentially similar to that of the holotype.

MCZ 4507 is a female with 232 ventrals, 44 + subcaudals and 19-19-17 longitudinal scale rows. The distribution of the color is the same as in the holotype, but the dorsum is uniformly brown and the midventer is yellowish brown. The specimen has been long preserved in alcohol.

All three specimens have well-defined paired apical pits on the dorsal scales.

The hemipenes of the holotype (MCZ 79767) agree well with Cope's (1900, pl. 26, fig. 4) figure of *Oxyrrhopus plumbeus* (= *Clelia clelia*) from Brazil.

Field Notes. Mr. James D. Lazell, Jr., who is currently studying the iguanid lizards of the Lesser Antilles, has kindly summarized his knowledge of *C. clelia groomei* for me. The account is presented in its colorful entirety below.

"When I was first in Grenada, in 1959, I heard tales of a snake, supposedly huge and much feared by Grenadians, called 'Cribo.' Underwood (1962, p. 164) having heard the same stories, recorded *Constrictor constrictor* from Grenada; he made the remarkable assumption (pers. comm.) that the stories could only apply to that species. As the distribution of *Constrictor* in the Lesser Antilles was of great interest to me (Lazell, 1964), when I returned to Grenada in June and July of 1964 I made a special effort to find out all I could about the famous 'Cribo.' Primary among my sources of information were Dr. John R. Groome, of Point Salines, Major Francis Power, of Tufton Hall, and Mr. Nick Neckles, of Beausejour. From these and many others, I learned that the 'Cribo' is indeed a large snake (up to ten feet ?), much feared by the local people for its strength (not its venom), restricted in range to the wet portions of the

island (though it is not known to what elevation it occurs), and uniform slate in dorsal color.

"Obviously the 'Cribo' was not a *Constrictor*; I thought, however, that it might be *Clelia clelia*, a species supposedly recorded from Grenada by one specimen (MCZ 4507). I knew from Drs. John Price and Jake Kenny (pers. comm.) and Mr. Michael Dix (pers. comm.) that in Trinidad and Central America, respectively, *C. clelia* was a nocturnal, ophiophagous snake.

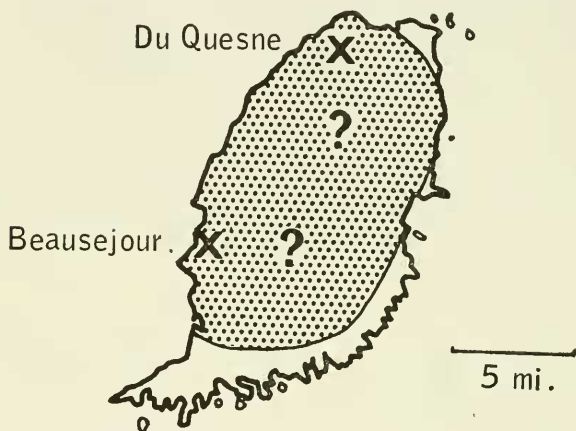


Fig. 2. Grenada. The stippled region indicates the wet portions of the island. *Clelia* is reported not to occur outside this region. X = localities represented by specimens. Question marks are centered on extremely wet, high, montane areas.

I spent seven nights, from dark to dawn, driving north out of St. George's around the coast and back by the Grand Etang road in a fruitless effort to collect specimens. Throughout this time, I learned on the sixth day, people all along my route had been encountering 'Cribos' in the daytime. On 26 June, therefore, I continued on around again after sunrise. At 9:10 A.M., in the Du Quesne Valley in northern Grenada, the car in front of me swerved off onto the shoulder of the road and ran over a 50-inch *Clelia*. This individual (MCZ 79766) was in the process of swallowing a rat (*Rattus rattus*) at the time, and the side of the neck was burst. I took the dead snake on around the island, stopping at villages to ask about it. To the question, 'What is this?' I got the invariable reply: 'a Cribo'; I then asked, 'How

old do you think it is?' and got always a variation on: 'It is *very* young.' I became famous on Grenada, needless to say.

"On the morning of 1 July, I was coming south along the leeward coast road when I was stopped by a man who had just seen a 'Cribo' crossing the road. It was 9:30 A.M. I uncovered the specimen (MCZ 79767) in some bushes alongside the road, where my informant indicated it had gone.

"This specimen was kept alive for several days. It seemed nervous, making abrupt darts with its head when handled, but it never attempted to bite. It was active in the morning, but remained quite dormant at night. It was a powerful constrictor. Fresh dead, it measured 62 inches.

"The people of Grenada confirm my records of the 'Cribo' eating rats, and mention occasional hen house raids as well. This species appears to be strictly diurnal with an apparent activity peak between sunrise and noon. It does not occur in the extremely dry area along the coast of Grenada from Point Salines to Telescope Point; similarly, it is absent from the dry northeast part of the island (Fig. 2). Elsewhere, in the wet lowlands at least, it is apparently fairly common.

"Several people in Carriacou maintain that a 'Cribo' (fitting the general description of the Grenada animal) occurs there; they are not confusing it with the 'serpent' (*Boa* sp.), which is abundant in the Grenadines and Grenada. If *Clelia* does occur on Carriacou, it is remarkable, for that island is drier by far than any habitat occupied by *Clelia* on the Grenada mainland."

Mr. Michael Dix of the Biological Laboratories, Harvard College, has studied the habits of *C. clelia* both in the wild and in captivity. He informs me that in the vicinity of Middlesex, British Honduras, the snake is an inhabitant of the "tropical wet forest" and is strictly nocturnal, being most active between 8-10 P.M. It is both terrestrial and arboreal (one individual having been found 5 feet above the ground), an observation supported by Beebe (1946, p. 23).

Captive individuals from Central America will take birds the size of sparrows and a little larger but prefer their more traditional bill of fare — snakes. Apparently food items are "trailed about the cage by olfaction. Mice, rats and frogs have been offered as food but never accepted. Several successful attempts to escape confinement also attest to the climbing abilities of the species."

Large adults in the vicinity of Middlesex are black dorsally but slate grey when younger.

Discussion. Throughout its range on the mainland from Mexico to Argentina, and on the island of Trinidad, the "Mussurana" is known as a nocturnal, ophiophagous snake. On Grenada it appears as if the "Cribo" is primarily diurnal and not unwilling to make a meal of small rodents. Morphologically, the two populations are separated by what most taxonomists would consider to be subspecific differences, while from the behavioral standpoint, the two populations are distinct to a degree suggesting specific separation. Assigning island populations to the species or subspecies category is largely a matter of personal preference and practicality. In this case our purpose is perhaps best served by recognizing the Grenada "Cribo" as a subspecies of the mainland *C. celia* and thereby acknowledging its close relationship with the mainland population.

Acknowledgments. My thanks go to Mr. James D. Lazell, Jr. for suggesting an examination of the Grenada specimens. The extensive knowledge of the Antillean herpetofauna possessed by both Dr. E. E. Williams and Mr. Lazell made their criticisms of the paper most valuable.

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(Received 10 March, 1965.)